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**GENVEC ANNOUNCES CONTRACT
WITH THE DEPARTMENT OF HOMELAND SECURITY**

GAITHERSBURG, MD – February 19, 2010 – Today GenVec, Inc. (NASDAQ: GNVC) announced a new contract with the Department of Homeland Security (DHS) to continue the development of adenovector-based vaccines against foot-and-mouth disease (FMD) based on research and development done in collaboration with USDA-ARS and DHS S&T scientists at the Plum Island Animal Disease Center. Under this new agreement, GenVec will receive \$3.8 million in program funding the first year and an additional \$0.7 million if DHS exercises its renewal option under the contract.

Under this contract, GenVec will use its adenovector technology to develop additional FMD-serotype candidate vaccines. GenVec will also explore methods to increase the potency and simplify the production process of FMD vaccines developed under this contract as well as its previous contract with the DHS announced in 2007.

“This contract expands our ongoing efforts to develop adenovector-based FMD vaccines,” said Dr. Paul Fischer, GenVec’s President and Chief Executive Officer. “This new contract with the DHS will support new vaccine discovery and technology improvement for this important threat.”

About GenVec

GenVec, Inc. is a biopharmaceutical company developing novel therapeutic drugs and vaccines. GenVec's lead product, TNFerade™, is currently in a pivotal clinical study (PACT) in locally advanced pancreatic cancer. TNFerade has also been and is currently being evaluated for its potential use in the treatment of several other cancers, including esophageal cancer, rectal cancer, and head and neck cancer. GenVec also uses its proprietary adenovector technology to develop vaccines for infectious diseases including HIV, malaria, foot-and-mouth disease, respiratory syncytial virus (RSV), and HSV-2. Additional information about GenVec is available at www.genvec.com and in the company's various filings with the Securities and Exchange Commission.

Statements herein relating to future financial or business performance, conditions or strategies and other financial and business matters, including expectations regarding future revenues and operating expenses, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act. GenVec cautions that these forward-looking statements are subject to numerous assumptions, risks and uncertainties, which change over time. Factors that may cause actual results to differ materially from the results discussed in the forward-looking statements or historical experience include risks and uncertainties, including the failure by GenVec to secure and maintain relationships with collaborators; risks relating to the early stage of GenVec's product candidates under development; uncertainties relating to clinical trials; risks relating to the commercialization, if any, of GenVec's proposed product candidates; dependence on the efforts of third parties; dependence on intellectual property; and risks that we may lack the financial resources and access to capital to fund our operations. Further information on the factors and risks that could affect GenVec's business, financial conditions and results of operations, are contained in GenVec's filings with the U.S. Securities and Exchange Commission (SEC), which are available at www.sec.gov. These forward-looking statements speak only as of the date of this press release, and GenVec assumes no duty to update forward-looking statements.

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